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# ENVIRONMENTAL Fact Sheet

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## Large Groundwater Withdrawal Permitting Process for Major Projects

In 1998 two state laws, the Groundwater Protection Act and the Safe Drinking Water Act, were amended to ensure that undesirable impacts to water resources from large new groundwater withdrawals are identified and mitigated. As a result, any new groundwater withdrawal from wells that equals or exceeds 57,600 gallons over any 24-hour period is considered to be a large groundwater withdrawal and must obtain a permit from the New Hampshire Department of Environmental Services. Amendments to the laws require the large groundwater withdrawal applicant to develop a conservation plan that demonstrates the need for the proposed withdrawal and to send copies of all application materials submitted to DES to each municipality and community water supplier located in the study area of a proposed withdrawal.

DES and an advisory committee, consisting of representatives from environmental organizations, municipalities, water suppliers, and a variety of potentially impacted businesses, worked together to develop the large groundwater withdrawal rules (Env-Ws 387 and Env-Ws 388) as required by the legislative amendments. The rules establish a permitting process and decision-making criteria for siting new large groundwater withdrawals. DES formally adopted the rules in April 2001.

The permitting process includes a two-tiered approach for assessing potential impacts that may be caused by a proposed withdrawal. A new large groundwater withdrawal is designated as either minor or major, based upon the magnitude of the proposed withdrawal and/or the potential impacts associated with developing a new withdrawal at a given site. Minor withdrawals are those with extraction rates ranging from 57,600 to 144,000 gallons per day (40–100 gallons per minute over any 24-hour period) **and** in an area with few water users and natural resources. Major withdrawals are those that exceed 144,000 gallons a day or are in an area with a significant number of water users or natural resources.

The permitting process for major withdrawals is detailed in Env-Ws 388, Major Groundwater Withdrawals, and generally consists of the following steps.

### 1) Preliminary Permit Application

Submit a preliminary large groundwater withdrawal permit application, including the following:

- A Large Groundwater Withdrawal Permit Application Notification Form.
- Preliminary demonstration of need and proposed withdrawal volume.
- Preliminary conservation management plan.
- Preliminary delineation of study area including the maximum extent of the withdrawal's cone of depression, the maximum extent of the withdrawal's recharge area, and the withdrawal's downgradient area.
- Preliminary list of water users and a water resources inventory.
- Conceptual hydrologic model.
- Identification of data gaps in the conceptual hydrologic model.

- A proposed withdrawal testing design.
- An estimate of the withdrawal's effects.

## **2) Public Notification**

The applicant must send by certified mail a copy of the preliminary permit application, and any subsequent application materials, to all municipalities and community water suppliers located in the study area of a proposed withdrawal.

## **3) Preliminary Application Public Hearing**

Pursuant to RSA 485-C:21, a municipality or water supplier located in the study area has 15 days after the receipt of the preliminary permit application to request DES conduct a public hearing. The public hearing must be conducted within 30 days of the request.

## **4) Preliminary Application 45-Day Public Comment Period**

A 45-day public comment period follows the public hearing. If a hearing is not requested, the 45-day public comment period follows the date the preliminary permit application was received by the municipality or water supplier. DES considers all relevant recommendations and comments received during the 45-day comment period or at the public hearing.

## **5) Optional Pre-Testing Conference and Revised Withdrawal Testing Design**

During the 45-day public comment period, the applicant may request a pre-testing conference and a DES walk-through of the proposed withdrawal site. **After a pre-testing conference and site walk-through, DES must comment on the adequacy of the proposed withdrawal testing design for assessing impacts to existing water users and environmental resources.** The applicant is strongly encouraged to revise the withdrawal testing design to address all DES comments and relevant technical issues identified during the public comment period.

## **6) Withdrawal Testing**

After revising the withdrawal testing design, the applicant conducts the withdrawal testing program. DES staff conducts site visits during withdrawal testing.

## **7) Final Report**

After completing withdrawal testing, the applicant must submit a final report to DES. The report must contain the following:

- A revised withdrawal permit volume— A revised permit volume may be requested provided the revised volume is less than or equal to the withdrawal volume demonstrated during withdrawal testing.
- Final conservation management plan that demonstrates need.
- Revised list of water users and water resources inventory.
- Revised delineation of study area.
- Revised conceptual hydrologic model based on data collected during withdrawal testing.
- A detailed description of the withdrawal testing program.
- A detailed analysis, including all calculations and collected data that fully summarizes the withdrawal testing results.
- A full assessment of impacts or potential impacts from the proposed withdrawal to existing water users or natural resources.
- A proposed monitoring and reporting program designed to ensure that adverse impacts will not occur as a result of the proposed withdrawal.
- A proposed plan, if necessary, to mitigate any potential adverse impacts should they occur.

## **8) Final Report Public Hearing**

Pursuant to RSA 485-C:21, a municipality or water supplier located in the study area has 15 days after the receipt of the final report to request DES conduct a public hearing. The public hearing must be conducted within 30 days of the request.

## **9) Final Report 45-Day Public Comment Period**

A 45-day public comment period follows the public hearing. If a hearing is not requested, the 45-day public comment period follows the date the final report was received by the municipality or water supplier. DES considers all relevant recommendations and comments received during the 45-day comment period or at the public hearing.

## **10) Technical Review**

DES completes a technical review for a proposed large groundwater withdrawal within 45 days of a public hearing as described above or, if no hearing is requested, within 45 days of receipt of the final report. Using the adverse impact criteria in Env-Ws 388, DES evaluates the permit application to verify that adverse impacts will not occur as a result of the proposed withdrawal. Adverse impacts are defined in Env-Ws 388 as the following:

- A capacity reduction in any private residence water supply well as a direct result of the major large groundwater withdrawal, including:
  - a. Any capacity reduction in a well that, before the withdrawal, had a capacity less than the Water Well Board recommended optimum minimum flow capacity of four gallons per minute for four hours;
  - b. A capacity reduction below four gallons per minute for four hours, for wells that, before the withdrawal, had a capacity greater than four gallons per minute for four hours; or
  - c. A capacity reduction where the well still has a capacity between four gallons and 10 gallons per minute for four hours and the user provides information indicating that the flow reduction has resulted in the inability to meet their water needs.
- Either of the following impacts to a public drinking water supply well:
  - a. A reduction below the design flow criteria established for public water supply systems under Env-Ws 372; or
  - b. Any verified reduction in the ability to produce water if such well was unable to produce the design flow before the withdrawal began.
- A capacity reduction in a non-public water supply well used for a multiple-unit dwelling residence that results in the inability to continue established activities or maintain existing water capacity requirements.
- A reduction in a private, non-residential, non-drinking water supply well that results in the inability of a commercial, industrial or retail facility to continue established services or production volumes.
- A reduction in a registered water user's ability to produce volumes equivalent to the average daily withdrawal for any specific calendar month as determined by discharge measurements and reports made to DES in accordance with the water user requirements under Env-Wr 700.
- A reduction in surface water levels or flows that causes a violation of surface water quality rules as set forth in Env-Ws 1700.
- A net loss of values for submerged lands under tidal or fresh waters and their wetlands as set forth in RSA 482-A.
- The inability of permitted surface water or groundwater discharges to meet permit conditions.
- The reduction of river flow below acceptable levels established pursuant to RSA 483.
- Contamination to wells or surface waters resulting from contaminated groundwater flow that has been altered by the withdrawal.

For all major withdrawals, adverse impacts do **not** include:

- A capacity reduction in a private residential well which still has a capacity greater than 10 gallons per minute for four hours after the withdrawal; and
- Impacts due to:
  - a. Poor operation or maintenance.
  - b. Infrastructure failure.
  - c. Increased water withdrawal by water users not owned or operated by the permittee.
  - d. Alteration of the environment beyond the permittee's control.

## 10) Final Decision

If the permit application information demonstrates the withdrawal will not produce adverse impacts, DES will issue a large groundwater withdrawal permit. If the permit application information indicates that an adverse impact may occur, but can be mitigated, a withdrawal permit shall be granted under the following conditions:

- Sufficient information is provided verifying that any adverse impact will not be immediate or irreversible.
- Adverse impacts can be prevented by mitigation.
- A monitoring and reporting program is implemented as approved by DES.

If insufficient permit application information exists for DES to complete a technical evaluation, depending upon the proposed large groundwater withdrawal potential impacts, DES will either:

- Issue a conditional approval contingent upon the results of monitoring and reporting requirements; or
- Require that additional hydrogeologic testing be completed for the withdrawal prior to issuing a permit.

## Public Participation

DES recognizes that numerous stakeholders are often interested in the large groundwater withdrawal permitting process after the public hearing(s) and comment period portions have been completed. Therefore, DES is always available to meet and discuss technical issues relating to the proposed withdrawal permitting process. Furthermore, all documents, reports, and data submitted to DES regarding the withdrawal are available for review, **by appointment**, at our offices located at 29 Hazen Drive in Concord. Additionally, DES will provide each municipality with copies of any mailed correspondence sent to the applicant and will provide the applicant with copies of any mailed correspondence sent to or received from each municipality. DES will coordinate and conduct public information meetings and/or technical working sessions with project stakeholders during the permitting process where there is sufficient interest.

## For Additional Information

Contact Christine Bowman at (603) 271-8866 or [christine.bowman@des.nh.gov](mailto:christine.bowman@des.nh.gov), or Stephen Roy at (603) 271-3918 or [stephen.roy@des.nh.gov](mailto:stephen.roy@des.nh.gov). The large groundwater withdrawal regulations can be found at [www.des.nh.gov](http://www.des.nh.gov), click on "A to Z List" and search for "Large Groundwater Withdrawals."

Please contact the Drinking Water and Groundwater Bureau at (603) 271-2513 or [dwgbinfo@des.nh.gov](mailto:dwgbinfo@des.nh.gov) or visit our website at <http://des.nh.gov/organization/divisions/water/dwgb/index.htm>. All of the bureau's fact sheets are on-line at <http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm>.

Note: This fact sheet is accurate as of November 2008. Statutory or regulatory changes or the availability of additional information after this date may render this information inaccurate or incomplete.